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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,375	10/20/2003	David W. Baarman	18716.84220-001	3356

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EXAMINER

DESCHERE, ANDREW M

ART UNIT PAPER NUMBER

2836

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,375

Applicant(s)

BAARMAN, DAVID W.

Examiner

Andrew M. Deschere

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 and 44-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 and 44-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The amendment filed 31 August 2006 has amended claims 1, 23, 32, 40, and 44.

Claims 41-43 have been cancelled.

The amendment filed 31 August 2006 has amended the title of the invention and provided serial numbers for copending applications. Examiner's objections to the specification are withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 13-17 rejected under 35 U.S.C. 102(e) as being anticipated by Park (US 6,683,438). Park discloses a contactless battery charger (Figures 1 and 2). A contactless power interface between converter 100 and battery pack 320 is provided by the primary and secondary sides of a PCB transformer (150 and 350, respectively). Rechargeable battery BAT provides power for the battery pack and its associated device (mobile phone 200 in the Figures). The power supplied to the battery is may be controlled in either a constant-voltage or constant-current form, this regulation provided by monitoring circuit and photo-coupler 340,

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inverter controller 120, and microprocessor unit 130. The monitoring circuit and photo-coupler 340 and photo-coupler receiver 140 provide a communication link between the battery pack 320 and the converter 100, furthermore providing battery information to mobile phone 200. This communication link enables the battery charger to charge every type of variable battery by responding to its current and voltage requirements (column 3, lines 20-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 23-28 rejected under 35 U.S.C. 103(a) as being anticipated by Park (US 6,683,438) and Hsu (US 6,977,479). Park discloses a contactless battery charger (Figures 1 and 2). A contactless power interface between converter 100 and battery pack 300 is provided by the primary and secondary sides of a PCB transformer (150 and 350, respectively). Rechargeable battery BAT provides power for the battery pack and its associated device (mobile phone 200 in the Figures). The power supplied to the battery may be controlled in either a constant-voltage or constant-current form, this regulation provided by monitoring circuit and photo-coupler 340, inverter controller 120, and microprocessor unit 130. The monitoring circuit and photo-coupler 340 and photo-coupler receiver 140 provide a communication link between the battery pack 300 and the converter 100, furthermore providing battery information to mobile phone 200. This communication link enables the battery charger to charge every type

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of variable battery by responding to its current and voltage requirements (column 3, lines 20-45).

However, Park does not teach a separate "remote device rechargeable power source" and "rechargeable power source for powering the adapter". Hsu teaches a power supply adapter 10 (Figure 1) with its own battery 66 (Figures 3A-3C) that is distinct from the phone's battery 18. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Park and Hsu to provide separate battery supplies for both a charging interface and a mobile phone so that power savings may be achieved by using a low-power supply to control operation of the charging unit.

Claims 18-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Park as applied to claim 17 above, and in further view of Zimmer (US 6,703,920). Park discloses a contactless battery charger including a transformer and serial communications, but does not teach that the contactless interface may include a variable impedance element. Zimmer teaches a method of contactless transmission of power or data, having a resonant circuit. The impedance of the resonant circuit is varied by switching an impedance element in either series or parallel configuration, as set by controller 2 (Zimmer, Figure 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to include such variable impedance in the invention of Park in order to provide optimal transmission of data and power over the contactless power interface (Zimmer, column 4 lines 6-15). Furthermore, inductive elements may be switched as taught by Zimmer (column 4, lines 30-37).

Claims 5-12 and 29-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Park and Hsu as applied to claims 4 and 28 above, and in further view of Zimmer (US 6,703,920).

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Park discloses a contactless battery charger including a transformer and serial communications, but does not teach that the contactless interface may include a variable impedance element. Zimmer teaches a method of contactless transmission of power or data, having a resonant circuit. The impedance of the resonant circuit is varied by switching an impedance element in either series or parallel configuration, as set by controller 2 (Zimmer, Figure 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to include such variable impedance in the combination of Park and Hsu in order to provide optimal transmission of data and power over the contactless power interface (Zimmer, column 4 lines 6-15). Furthermore, inductive elements may be switched as taught by Zimmer (column 4, lines 30-37).

Claims 32-40 and 44-46 rejected under 35 U.S.C. 103(a) as being unpatentable over Park in view of Kaplan. Park discloses a contactless battery charger including a transformer and serial communications, but does not teach the use of orthogonal coils.

Kaplan discloses a system of an inductively coupled passive responder and interrogator unit. Provided in the system (Figures 5A and 5B) are mutually orthogonal coils 172, 174, and 176. These coils are coupled to respective capacitors 172, 174, and 176. Additionally 5volt, 12volt, and 30volt regulators are provided (elements 130, 132, and 140). In responder tag 22 of Kaplan, there exist three coils 42, 44, and 46 that provide inductive coupling to interrogator 12 (Figures 1 and 2). Kaplan is unclear as to whether these coils are orthogonal such as the set of coils 172, 174, and 176. Coupled to coils 42, 44, and 46 are voltage regulating Zener diodes 54, 56, and 58; capacitors 55, 57, and 59; and full wave rectifiers 48, 50, and 52 (column 11, lines 5-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the orthogonal windings of Kaplan in the transformer of Park to provide a

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multidimensional electromagnetic field to facilitate charging no matter the orientation of the device to be charged.

With respect to claim 35, the use of a half-wave rectifier instead of a full-wave rectifier would be an obvious matter of design choice, if system specifications permitted the loss of efficiency in voltage conversion at the gain of a lower number of needed components.

Response to Arguments

Applicant's arguments with respect to claims 1 and 23 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claims 1 and 18 have been fully considered but they are not persuasive. Applicant contends that there exists no power regulator. Examiner views the feedback loop for controlling voltage and current, as well as the rectifier formed by diode bridge D5-D8 and smoothing capacitor C2 as power regulation.

Applicant's arguments with respect to claim 13 have been fully considered but they are not persuasive. The claim provides no teaching that the remote device power supply must be integral to the remote device.

Applicant's arguments with respect to claims 24 and 26 have been fully considered but they are not persuasive. The combination of Park and Hsu would provide communication between the remote device and adapter by the power flow into the battery.

Applicant's arguments with respect to claim 40 have been fully considered but they are not persuasive. There is no suggestion in Park that the photo-coupler components must be precisely lined up in order to enable communication.

Applicant's arguments with respect to claims 8 and 19 have been fully considered but they are not persuasive. Determination of resonant frequency and subsequent switching shows

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control (Zimmer, column 2, lines 15-30). In a combination of Park and Zimmer, such control would exist in converter 100 of Park to provide feedback to be able to charge every type of battery (Park, column 3, lines 40-45).

Applicant's arguments with respect to claims 10, 11, and 21 have been fully considered but they are not persuasive. One of ordinary skill in the art would readily recognize that a microprocessor unit contains memory components. Control based upon received data shows identification.

Applicant's arguments with respect to claim 45 have been fully considered but they are not persuasive. If, as a matter of design choice, the photo-transmitter in the battery pack of Park were made detachable (for example, to prevent charging of a display model), one of ordinary skill in the art could view the photo-transmitter as a dongle.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US 6,057,668 (Chao) teaches contactless battery charging for a mobile phone.
- US 6,821,670 (Hsueh) teaches a connection point for an emergency battery onto a standard mobile phone battery.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M. Deschere whose telephone number is (571) 272-8391. The examiner can normally be reached on M-F 9:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMD



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